

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number
WO 03/058831 A1

(51) International Patent Classification⁷: **H04B 1/26**,
H03D 7/16, H03G 7/00

(74) Agent: **MCCORMACK, Derek**; Motorola European Intellectual, Property Operations, Midpoint, Alencon Link, Basingstoke, Hampshire RG21 7PL (GB).

(21) International Application Number: **PCT/EP02/14334**

(22) International Filing Date:
16 December 2002 (16.12.2002)

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
0200496.8 10 January 2002 (10.01.2002) **GB**

(71) Applicant (for all designated States except US): **MOTOROLA INC** [US/US]; 1303 E.Algonquin Road, Schaumburg, IL 60196 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KOENIG, Matthias** [DE/DE]; Carl-Benz, 65232 Taunusstein (DE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

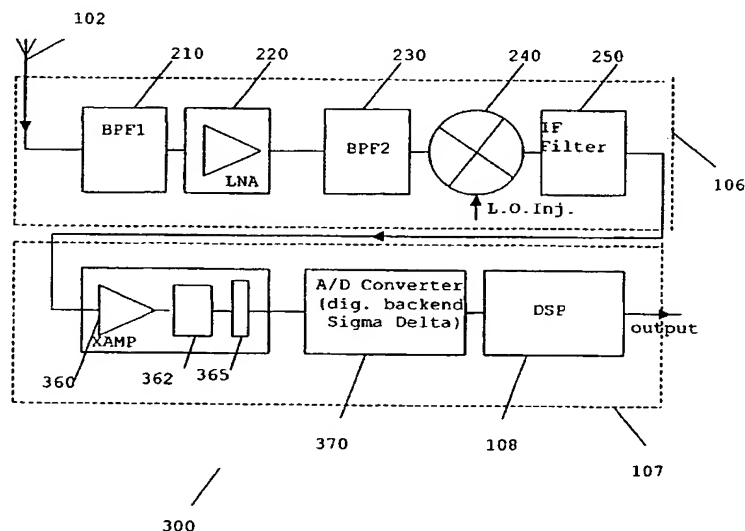
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: **WIRELESS RECEIVER WITHOUT AGC**



(57) Abstract: A wireless communication unit (300) incorporates a receiver comprising radio frequency circuitry (210, 220, 230, 240) for receiving a radio frequency signal and converting the radio frequency signal to a low frequency signal. A signal level adjustment circuit receives the low frequency signal and an analogue to digital converter (370), operably coupled to the signal level adjustment circuit receives an adjusted low frequency signal and provides a digital received signal. A signal processor (108) operably coupled to the analogue to digital converter (370) processes the digital received signal. The signal level adjustment circuit includes a low frequency amplifier (360) whose gain is arranged to be dependent upon a clip point of the analogue to digital converter (370). The aforementioned receiver avoids the need for an automatic gain control circuit in such wireless communication units.